UNITED STATES DISTRICT COURT
DISTRICT OF CONNECTICUT

Karl Allen,	:	
Plaintiff,	:	
	:	
v.	:	**Case No. 3:05cv110 (JBA)**
	:	
United States of America,	:	
Defendant.	:	

MEMORANDUM OF DECISION

This orthopedic malpractice action is brought under the Federal Tort Claims Act ("FTCA"), 28 U.S.C. § 2671, et seq., in connection with the medical treatment of plaintiff, Karl Allen, rendered at the West Haven (Connecticut) Campus of the Veterans Administration Hospital ("VA"). Plaintiff alleges that in March 2003 VA medical staff were negligent in his post-operative care following hip surgery, with resultant permanent neurological injury. Plaintiff seeks damages for personal injury in the amount of $3 million. Defendant, the United States of America denies any negligence or other wrongdoing and claims that the care rendered to Mr. Allen was within the applicable standard of care and that, in any event, the deviation from standards of medical care claimed by plaintiff did not cause plaintiff's injury. Trial was held December 4-8, 2006. The Court's findings of fact and conclusions of law follow pursuant to Fed. R. Civ. P. 52.

I. Findings of Fact

Plaintiff Karl Allen is a military veteran who was born on April 9, 1949 and served in the United States Navy from December 1966 through January 1970; he received an honorable discharge on December 29, 1972. Mr. Allen since has been employed working as a commercial, residential, and industrial painter.

After his discharge, Mr. Allen registered as a patient of the VA and he has been a regular patient there since the early 1980s. In 1988, Mr. Allen was involved in a serious motor vehicle collision and was treated for an acetabular fracture of his left hip at Yale-New Haven Hospital. Approximately 10 years later, plaintiff again began experiencing pain in his left hip. It was eventually determined that plaintiff should undergo a total hip arthroplasty (replacement), which was scheduled for late 2002 and ultimately went forward at the VA on January 21, 2003, performed by Dr. Lawrence Weis, Chief of Orthopedics, and Drs. Zachary Leitze and Andrew White, both orthopedic residents. The Operative Report, signed by Dr. Weis, describes the surgery as being without complication (Joint Ex. A at 14-16). Mr. Allen's post-operative treatment was uneventful; he began a course of physical therapy and was discharged on January 29, 2003.

The following day, as Mr. Allen attempted to rise from a reclining chair and move around his house, he felt a "pop" and

suffered a painful dislocation of his replaced left hip. He returned to the VA on January 30 and underwent a reduction of his dislocated hip in the mid-afternoon. Following the reduction, an abduction pillow similar to Gov't Ex. E was placed between plaintiff's thighs and attached with velcro straps, with the lower strap wrapped around plaintiff's left leg in the proximal (upper) calf area just below the knee to stabilize the hip joint post-operatively. Around 9 a.m. the next day, according to the notes from a physical therapy consult, and as also documented in a note from 12:52 p.m., plaintiff began to feel tingling in his left foot (Joint Ex. A at 44, 46). At around 1 p.m., the lower left abduction pillow strap around plaintiff's left leg was loosened and the tingling resolved by the following day (id. at 47).

On February 4, plaintiff was transferred to the Geriatric and Rehabilitation Unit, was fitted with an abduction brace, physical therapy was ongoing, and he discussed with doctors a possible surgical procedure on his left hip to remove heterotopic bone which remained or had developed after his hip arthroplasty to prevent future hip dislocation such as he had just experienced. Dr. Weis testified that it was his recommendation to wait, treat with physical therapy, and see if there was improvement, but plaintiff was uncomfortable in his hip abduction brace, feared another painful dislocation, and opted for the

surgery, which Weis believed was a "reasonable" course of action.

This surgery was performed on March 5 by Dr. Weis, who was assisted by Dr. Robert Kennon. Drs. Weis and Kennon both testified that because bone and scar tissue had surrounded the sciatic nerve, it was necessary to dissect that material and identify and retract the sciatic nerve using a penrose drain, in order to protect it from risk of possible cutting, contusion, or stretching during the surgical procedure. The doctors then removed large amounts of impinging heterotopic bone and scar tissue from around the posterior acetabular rim and from the tip of the greater trochanter. The hip was then found to have a greatly improved range of motion without impingement, and it was determined that no revision of the hip replacement components was necessary. Plaintiff's wound was irrigated and drains were inserted into the joint space. The wound was then sutured and dressed and plaintiff was placed in an abduction pillow, before being extubated and transported to the recovery room. The operative note reflects that the surgery was concluded by 2:43 p.m. on the afternoon of March 5 (Joint Ex. A at 88).

Plaintiff testified that the abduction pillow was placed between his thighs with the lower strap wrapped around his left leg just below his knee. This placement was corroborated by Dr. Weis based on the assumption that if a pillow of a size similar to Gov't Ex. E was used on a person of plaintiff's size

(approximately 6' 3" tall) and was placed between the thighs (as is the customary placement), the lower strap would likely fall somewhere in the area just below the knee.

Beginning on March 6, plaintiff was followed by Dr. Kennon. On March 6 around 8 a.m., Kennon examined plaintiff and conducted basic neurological testing, noting normal (5 out of 5) muscle function in plaintiff's calf, ankle, and foot, that sensation was "grossly in tact [sic]," that the abduction pillow was in place, and that plaintiff had no complaints (Joint Ex. A at 91). On March 7 around 4:30 p.m., Kennon examined plaintiff again, observed that plaintiff "[n]otes new onset foot drop since last PM," and found weakness (2 out of 5) in the left anterior tibular muscle that runs along the front of the calf and controls the ability to pull the ankle upward (to dorsiflex). Dr. Kennon noted that the symptom was "not present initially post-operatively, and likely represents a compression neuropraxia" (Joint Ex. A at 94). Dr. Weis testified that if the "foot drop" was caused by a nerve injury the symptoms would include tingling and numbness. While Dr. Kennon testified that he believed his note indicated that these symptoms had manifested themselves between the time of his examination of plaintiff on the morning of March 6 and the time of his examination of plaintiff on March 7, his interpretation seems inaccurate given the text of the note ("[n]otes new onset foot drop since last PM") (emphasis added).

Plaintiff's testimony was that he began to experience foot tingling in the late afternoon of March 6 continuing through the night, which is consistent with the language of the note that the problem arose sometime "since" the previous afternoon or evening. In any event, it seems clear that the problem presented itself, at least to plaintiff,[1] sometime between 24 hours and 36 hours following surgery. In response to the observed condition, plaintiff's abduction pillow straps and dressings were loosened, which response Kennon described as the standard first response to development of foot drop, and is not a diagnosis of the cause of the symptoms. The condition, however, did not resolve.

Plaintiff was discharged on March 10 to the extended care unit at the VA. On March 12, Mary D. Lilley, a nurse practitioner at the VA, examined the active motion of plaintiff's left foot and ankle, did sensory testing, and noted plaintiff's complaints of pain, sense of tightness, and pain at the bottom of his foot (Joint Ex. B at 2-3). Dr. Weis testified that in his experience, pain at the bottom of the foot indicates sensory disturbance associated with the tibular portion of the sciatic nerve, not the peroneal portion which does not innervate the

[1] The medical records, in distinction to those from the January 30 reduction, contain no reflection of any complaint of tingling by plaintiff.

bottom of the foot.[2] Subsequently, on March 13, Dr. Kennon examined plaintiff and noted "[p]artial peroneal nerve palsy that developed late (2d after surgery), most consistent with a neuropraxia and not a complete nerve injury. This can be the result of dressings or a brace compressing the peroneal nerve at the level of the fibular head, as his brace appears to be doing at present" (Joint Ex. A at 110). Plaintiff remained hospitalized, receiving rehabilitation, physical therapy, and other treatment, until being discharged to his home on April 18, 2003.[3]

In a June 17, 2003 note of Dr. Weis, drafted after plaintiff was seen at the VA orthopedic clinic by Weis's colleague Dr. Moore, Dr. Weis stated that while he knew the sciatic nerve was "intact anatomically from our dissection," that "despite our care with it during the [March 5, 2003] procedure, I can only conclude that the peroneal palsy must be from our handling the [sciatic]

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[2] The Court notes some apparent inconsistency between Nurse Lilley's findings and the note of Dr. Vitagliano from the same date, which noted "[p]t has signs & symptoms of neuropathy of common peroneal nerve & superficial & deep peroneal nerves. . . . Exam today not suggestive of sciatic nerve involvement – exam suggests injury is further down at common peroneal nerve given the complaints of paresthesias & numbness confined to the lower leg below the knee . . ." (Joint Ex. B at 16-17). However, the Court credits Dr. Weis's explanation of this inconsistency that Nurse Lilley's examination, which suggested injury to the sciatic nerve, was more extensive than Dr. Vitagliano's.

[3] Plaintiff insisted that he was discharged in 2004, but all medical records are to the contrary (Joint Ex A at 161).

nerve during the dissection" (Joint Ex. A at 186). Dr. Weis also noted that "[i]n [his] experience, there is a good chance of near normal nerve recovery over a 6-12 month period following the neuropraxia" and that in fact plaintiff's "peroneal function [was] evidently improving, according to the notes from his primary care physician who ha[d] seen him more frequently than [Weis] ha[d], and the presence of even some peroneal nerve function at this time is indicative that substantial recovery of nerve function will likely take place over the next 6-9 months" (id. at 185-86). Subsequently, plaintiff was seen in the VA orthopedic clinic on December 18, 2003 by Dr. Dodds, who noted "physical exam shows peroneal function with active eversion of the foot. The ELH actively dorsiflexes. There is also active inversion of the foot" (Joint Ex. A at 187). Dr. Weis testified that these findings suggest some improvement with respect to the functioning of the peroneal component of the sciatic nerve.

Notwithstanding these noted improvements, from the time of plaintiff's discharge to the present, plaintiff has continued to suffer tremendously, with a walking impairment due to foot drop, burning pain, tingling, numbness throughout the lower left leg from the knee through the sole of his foot, focused primarily on the foot and ankle area, and a stretching sensation on his calf that plaintiff described as a feeling of drying leather. Plaintiff testified that the foot drop affects his mobility even

though he wears a brace to address the problem because the brace is uncomfortable and cannot be worn constantly because of the pain. These injuries have persisted notwithstanding the use of therapy and medication, and plaintiff's condition thus appears to be permanent.

Plaintiff does not claim that the VA deviated from any applicable standards of care in connection with any of his surgical procedures – his January 21, 2003 arthroplasty surgery, his reduction following dislocation on January 30, 2003, or his March 5, 2003 surgery. Rather, plaintiff contends that the VA's post-operative treatment of him after March 5 in the placement and tightness of the abduction pillow straps deviated from applicable standards of care, causing compression nerve injury from which he suffers to this day.

II. Conclusions of Law

The liability of the federal government under the FTCA is determined according to the law of the state in which the injury occurred. See 28 U.S.C. § 1346(b); Zuchowicz v. United States, 140 F.3d 381, 387 (2d Cir. 1998).

A plaintiff alleging medical malpractice in Connecticut must first prove that the defendant failed to conform to "the standard of proper professional skill or care on the part of a physician." Edwards v. Tardif, 240 Conn. 610, 614 (Conn. 1997) ("To prove that a physician has breached the legally required standard of

care, a plaintiff must offer some evidence that the conduct of the physician was negligent."). A physician is required by law to exercise the degree of skill, care, and diligence that is customarily demonstrated by physicians in the same line of practice. Id. at 614. "Except in the unusual case in which the want of care or skill is so gross that it presents an almost conclusive inference of want of care, . . . the testimony of an expert witness is necessary to establish both the standard of proper professional skill or care on the part of a physician, . . . and that the defendant failed to conform to that standard of care." Id. at 614-15.

In addition, the plaintiff must "establish a causal relationship between the physician's negligent actions or failure to act and the resulting injury by showing that the action or omission constituted a substantial factor in producing the injury." Id. at 615. In order to meet this requirement, the plaintiff must generally show that the defendant's negligent act or omission was a 'but for' cause of the injury, that the negligence was causally linked to the harm, and that the defendant's negligent act or omission was proximate to the resulting injury. See Zuchowicz, 140 F.3d at 388. Under Connecticut law, "[t]he expert opinion that seeks to establish the causal connection between the injury and the alleged negligence must rest upon more than surmise or conjecture."

Shelnitz v. Greenberg, 200 Conn. 58, 66 (Conn. 1986) (internal quotation omitted).

To support his claim of liability on grounds of deviation from the applicable standard of care in the placement of the abduction pillow and tightness of its straps following plaintiff's March 5, 2003 surgery resulting in the claimed peroneal nerve injury, plaintiff presents his own testimony and that of his medical expert, Dr. Christopher Cassels.

As detailed above, plaintiff's testimony (corroborated by that of Dr. Weis) supports the conclusion that after his March 5 surgery, he was placed in an abduction pillow with the lower left strap wrapped around his left proximal calf area, near the fibular head, which is where the peroneal nerve branch of the sciatic nerve is close to the surface. Plaintiff testified that during the evening of March 6 he began to experience tingling in his left foot, but no one responded to his call button. His condition was first addressed in his March 7 afternoon consultation with Dr. Kennon. Dr. Cassels testified that peroneal nerve injuries can be caused very quickly by compression in the area of the fibular head by items such as the straps on an abduction pillow, an ace bandage, or even a stocking. He opined that plaintiff's injury constitutes a compression neuropraxia of the peroneal nerve caused by the compression of that nerve in the area of the fibular head by the strap on plaintiff's abduction

pillow. While Dr. Cassels testified that he did not believe the post-operative circumstances involving the abduction pillow strap in January 2003 constituted a deviation from the applicable standard of care, he testified that the situation in March 2003 did constitute such a deviation. When queried by the Court for explanation of this seeming inconsistency, Dr. Cassels testified that he believed the VA "got lucky" in January 2003, and "caught it in time," and that the January incident should have been a "red flag" in dealing with plaintiff and the abduction pillow strap following the March 5 surgery.[4] However, for the reasons that follow, plaintiff has not proved his claim because, although the evidence established that a strap placed too tightly for too long over the fibular head could theoretically cause a neuropraxia, plaintiff's evidence does not demonstrate that the placement of the abduction pillow and the location, duration, and tightness of its straps more likely caused plaintiff's nerve injury than injury during the March 5 surgery itself, notwithstanding the prophylactic measures taken then.

As set out above, plaintiff first must establish that defendant's proved conduct constituted a deviation from the

[4] Dr. Cassels' testimony that the placement of the pillow strap in January 2003 did not constitute a deviation from the applicable standard of care, whereas the same placement of the pillow strap in March 2003 did not constitute such a deviation, appears to reflect a "no harm, no foul" perspective but clouds the issue of whether the strap placement deviated from applicable standards of care in the medical community.

applicable standard(s) of care and such a showing must be established through expert testimony. Plaintiff's expert, Dr. Cassels, did not ground his opinion that the March 2003 placement of the abduction pillow and straps deviated from an applicable standard of care in any literature or case studies or otherwise indicate that his opinion enjoyed recognition in the medical community. Dr. Weis conducted a search, albeit narrow, of orthopedic literature and case studies and found nothing that would suggest a specific standard of care as to the placement of the abduction pillow and/or its straps, although he was aware of literature on traction injuries. Weis testified that this explains why the VA does not have a policy of recording where the abduction pillow and its straps are placed on a patient, as there is no reportage in the studies/literature of abduction strap misplacement causing permanent nerve palsy.[5] The Government's expert, Dr. Thomas Rodda, corroborated the absence of any reported medical findings or reports of permanent foot drop caused by abduction pillow strap constriction. Dr. Weis explained the implausibility of plaintiff's nerve injury from overly tight straps due to the fact that the placement of the

[5] The use of the abduction pillow dates back to the 1960's when hip replacement surgery was first developed by Sir John Charnley. Weis testified that Charnley developed "every aspect" of hip replacement surgery in its first 5-10 years, including all instrumentation and the abduction pillow, the design and purpose of which remains relatively unchanged today.

pillow and its straps is not fixed for any significant period of time and shifts as the patient moves, gets up from bed, and will be removed for bathing and bathroom use and replaced. As well, straps may be repositioned by doctors, nurses, and the patient and his or her family members.

It is not evident from the expert testimony that a standard of care for the placement of abduction pillow straps in fact exists, although there is a general recognition that a restrictive device placed too tightly for too long in the area of the fibular head could cause a neuropraxia.[6] While there was sufficient evidence that the strap was fastened in the area of the fibular head, and Dr. Rodda opined that this was not good practice because it could compress the peroneal nerve (indeed he and other hospitals do not use straps), the evidence provides no basis for concluding that it was applied there in an unacceptably and unremittingly constrictive manner to have caused the foot drop plaintiff suffered. Thus, even if the placement of the strap was not "good practice," the plaintiff nevertheless lacks sufficient evidence to support an inference that, more likely than not, the placement of the strap caused the injury he suffered.

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[6] This recognition was reflected in the testimony of Drs. Cassels, Rodda, and Weis, including Dr. Rodda's explanation of "Saturday Night Palsy" and the doctors' references to reported nerve injuries resulting from braces, traction devises, and other compression sources.

Dr. Cassels offered essentially a differential diagnosis in his causation opinion: "[a] differential diagnosis is a patient-specific process of elimination that medical practitioners use to identify the 'most likely' cause of a set of signs and symptoms from a list of causes." Ruggiero v. Warner-Lambert Co., 424 F.3d 249, 254 (2d Cir. 2005). Dr. Cassels ruled out other potential causes of the plaintiff's injury (such as an intra-operative injury or a hematoma) and thus concluded that the compression by the abduction pillow strap must have caused plaintiff's foot drop.[7] However, the differential diagnosis "method does not (necessarily) support an opinion on general causation, because, like any process of elimination, it assumes that the final, suspected 'cause' remaining after this process of elimination must actually be capable of causing the injury." Id. (internal citations omitted) (emphasis in original). Thus, "[w]here an expert employs differential diagnosis to 'rule out' other potential causes for the injury at issue, he must also 'rule in' the suspected cause and do so using scientifically valid methodology." Id.

Here, plaintiff's evidence does not adequately "rule in"

[7] Cassels ruled out intra-operative nerve injury on the basis that the doctors took precautions to prevent such an injury and in light of the time the injury took to manifest itself after surgery, and ruled out a hematoma because plaintiff had drains/tubes in the area of his left hip joint intended to prevent hematoma formation, which mechanisms in fact drained a considerable amount of blood post-operatively.

compression from the placement of the pillow and duration and tightness of its strap as the cause of plaintiff's injury. Dr. Cassels did not support his causation opinion with any case studies or any other medical literature reporting a permanent nerve injury from an abduction pillow strap or other constrictive mechanism applied in similar circumstances. Dr. Weis testified that while it might be theoretically possible for a pillow strap to cause a transient nerve injury, it is "inconceivable" that it would cause a permanent nerve injury such as the one plaintiff sustained.[8] He further testified that cases of delayed onset of systems of intra-operative nerve injury, such as from edema or hematoma, were well reported. Dr. Rodda further opined that even if such injury were theoretically possible, if the abduction pillow straps had been tight enough to cause such an injury, and were placed on plaintiff for a period of 36-48 hours, there would be evidence of strap marks and swelling on plaintiff's left leg reflecting such excessive tightness. There was no notation in the medical records (nor evidence at trial) of any such symptoms.

[8] Dr. Weis explained that while he knows of no cause of either a transient or a permanent injury caused by an abduction pillow strap, he recognizes the diminished likelihood that the medical literature would contain reports of transient nerve injury from tight abduction pillow strapping. It was not conceivable to him, however, that a doctor would fail to report a permanent nerve injury believed to have been caused by pillow strap compression, because the latter would be a very significant complication in the way post-operative hip replacement patients are treated.

As noted above, "[t]he expert opinion that seeks to establish the causal connection between the injury and the alleged negligence must rest upon more than surmise or conjecture." Shelnitz, 200 Conn. at 66. Dr. Cassels' opinion, unsupported by relevant medical findings either in the literature or plaintiff's individual medical record, is insufficient to establish the requisite causal connection between treatment and injury, particularly where sciatic nerve injury is a known risk of hip surgery.

Causation also cannot be inferred from comparison to the circumstances of the January incident. Indeed, the January incident suggests that the abduction pillow strap, applied then sufficiently tightly to cause temporary injury, was not sufficiently tight or improperly placed in March to cause the injury, because approximately the same amount of time elapsed between the placement of the pillow strap immediately after surgery and the loosening of the strap in both January and March (24-36 hours), and in January when the strap was loosened, plaintiff's sensation resolved – whether coincidentally or resultingly. As for the other primary potential cause of plaintiff's injury, while it is undisputed that plaintiff suffered no direct trauma (a cut or nick) to the sciatic nerve during surgery, the nerve had to be handled and thus the opportunity was present for a degree of contusing or stretching

of the sciatic nerve intra-operatively during its transposition. Indeed, the potential for sciatic nerve injury is a known risk of hip surgery, which is why express precautions were taken to protect the nerve as much as possible during the March surgery.[9] Dr. Rodda testified that the greater the distance the sciatic nerve is moved, the more enhanced the risk of injury, which occurs in about 5% of hip revision surgeries. This potential cause finds support in Nurse Lilley's March 12 clinical findings indicative of injury to plaintiff's sciatic nerve, not his peroneal nerve, as her testing showed injury to the tibular nerve (manifesting as foot pain), and Dr. Cassels made no suggestion that such an injury could be caused by an abduction pillow strap.[10] Indeed Drs. Weis and Rodda both affirmatively testified that it could not be, as the tibular nerve in the area of the proximal calf is located towards the back of the leg and is much deeper than the superficial peroneal nerve and is not subject to surface compression. Thus, the fact that plaintiff suffered injury to both the peroneal and tibular nerve components strongly suggests that the source of the injury was higher on the sciatic nerve, before it branches into the separate peroneal and tibular

[9] Dr. Rodda also testified that due to plaintiff's history of alcoholism and causalgia, plaintiff's vulnerability to such an intra-operative injury was increased.

[10] The 2006 EMG testing also revealed tibular nerve injury consistent with a sciatic nerve injury rather than a direct peroneal nerve injury (Joint Ex. C).

nerves in the knee area, which is consistent with injury during surgery in the area surrounding the sciatic nerve.

III. Conclusion

Accordingly, plaintiff has failed to prove defendant's FTCA liability by a preponderance of the evidence and judgment shall enter in favor of the defendant.

IT IS SO ORDERED.

/s/
Janet Bond Arterton
United States District Judge

Dated at New Haven, Connecticut this 31st day of January, 2007.